# 6DT6-A

## Sharp-Cutoff Pentode

### With Two Independent Control Grids

**7-PIN MINIATURE TYPE**

**For FM Detector Service**

**GENERAL DATA**

**Electrical:**

| | | |
|---|---|---|
| Heater, for Unipotential Cathode: | | |
| Voltage (AC or DC) | 6.3 ± 10% | volts |
| Current at 6.3 volts | 0.3 | amp |
| Direct Interelectrode Capacitances (Approx.):▲ | | |
| Grid No.1 to plate | 0.02 | μμf |
| Grid No.1 to cathode & internal shield, grid No.3, grid No.2, and heater | 5.8 | μμf |
| Grid No.3 to plate | 1.7 | μμf |
| Grid No.1 to grid No.3 | 0.1 | μμf |
| Grid No.3 to cathode & internal shield, plate, grid No.2, grid No.1, and heater | 6.1 | μμf |

**Characteristics, Class $A_1$ Amplifier:**

| | | |
|---|---|---|
| Plate Supply Voltage | 150 | volts |
| Grid No.3 | *Connected to cathode at socket* | |
| Grid-No.2 Supply Voltage | 100 | volts |
| Cathode Resistor | 560 | ohms |
| Plate Resistance (Approx.) | 0.15 | megohm |
| Transconductance, Grid No.1 to Plate | 1350 | μmhos |
| Transconductance, Grid No.3 to Plate | 515 | μmhos |
| Plate Current | 1.55 | ma |
| Grid-No.2 Current | 1.8 | ma |
| Grid-No.1 Voltage (Approx.) for plate μa = 10 | -5.2 | volts |
| Grid-No.3 Voltage (Approx.) for plate μa = 10 | -4.2 | volts |

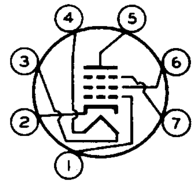
**Mechanical:**

| | |
|---|---|
| Operating Position | Any |
| Maximum Overall Length | 2-1/8" |
| Maximum Seated Length | 1-7/8" |
| Length, Base Seat to Bulb Top (Excluding tip) | 1-1/2" ± 3/32" |
| Diameter | 0.650" to 0.750" |
| Dimensional Outline | See *General Section* |
| Bulb | T5-1/2 |
| Base | Small-Button Miniature 7-Pin (JEDEC No.E7-1) |

# 6DT6-A

Basing Designation for BOTTOM VIEW. . . . . . . . . . . 7EN

Pin 1 - Grid No.1
Pin 2 - Cathode, Internal Shield
Pin 3 - Heater




Pin 4 - Heater
Pin 5 - Plate
Pin 6 - Grid No.2
Pin 7 - Grid No.3

**FM DETECTOR**

**Maximum Ratings,** ***Design-Maximum Values:***

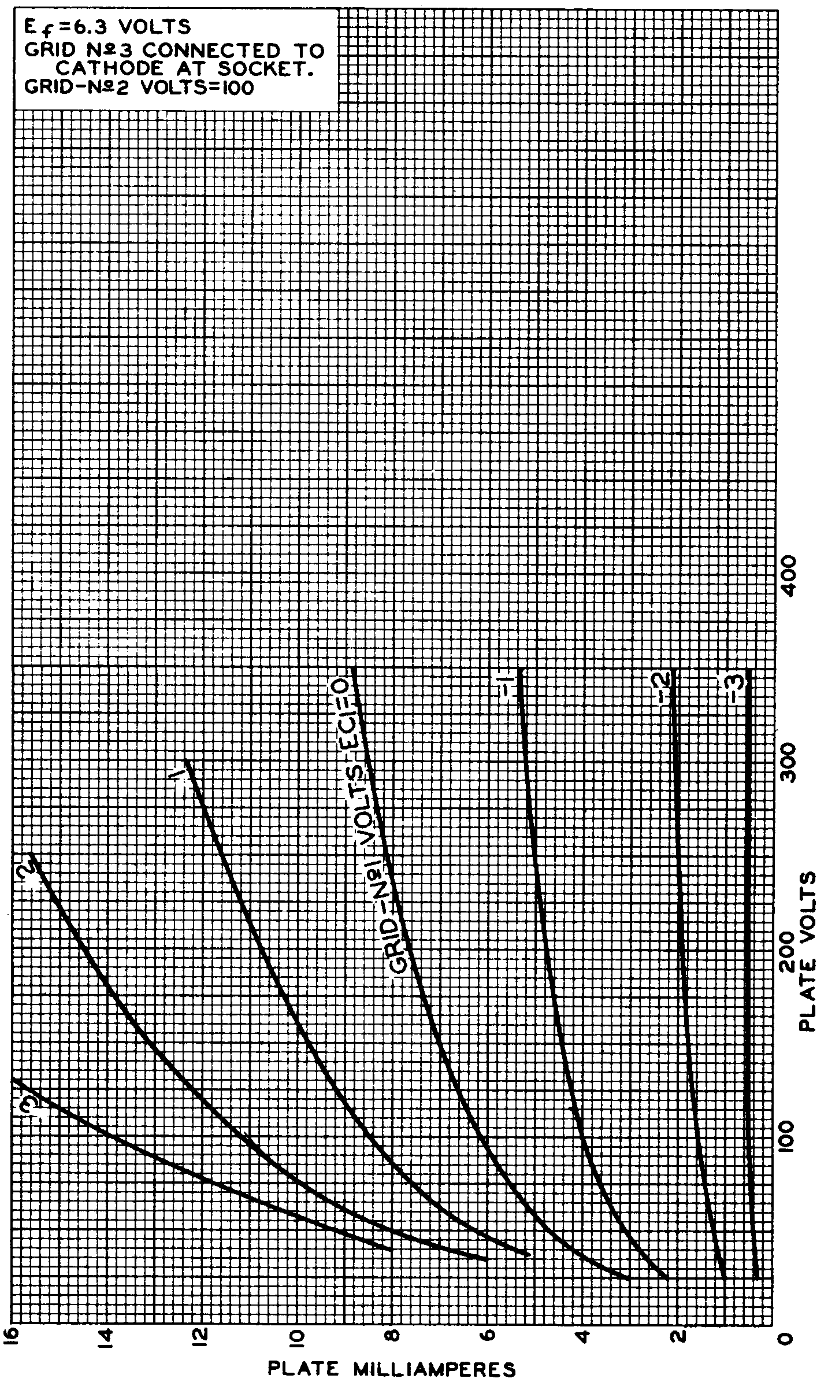
| | | |
|---|---|---|
| PLATE VOLTAGE. . . . . . . . . . . . . . . . . | 330 max. | volts |
| GRID-No.3 (CONTROL-GRID) VOLTAGE . . . . . | 28 max. | volts |
| GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE . . | 330 max. | volts |
| GRID-No.2 VOLTAGE. . . . . . *See Grid-No.2 Input Rating Chart at front of Receiving Tube Section* | | |
| GRID-No.1 (CONTROL-GRID) VOLTAGE: | | |
| Positive-bias value. . . . . . . . . . . | 0 max. | volts |
| GRID-No.2 INPUT: | | |
| For grid-No.2 voltages up to 165 volts . | 1.1 max. | watts |
| For grid-No.2 voltages between 165 and 330 volts. . . . . . *See Grid-No.2 Input Rating Chart at front of Receiving Tube Section* | | |
| PLATE DISSIPATION. . . . . . . . . . . . . . | 1.7 max. | watts |
| PEAK HEATER-CATHODE VOLTAGE: | | |
| Heater negative with respect to cathode. | 200 max. | volts |
| Heater positive with respect to cathode. | 200● max. | volts |

**Maximum Circuit Values:**

| | | |
|---|---|---|
| Grid-No.1-Circuit Resistance: | | |
| For fixed-bias operation . . . . . . . . | 0.25 max. | megohm |
| For cathode-bias operation . . . . . . . | 0.5 max. | megohm |

▲ With external shield JEDEC No.316 connected to cathode.
● The dc component must not exceed 100 volts.

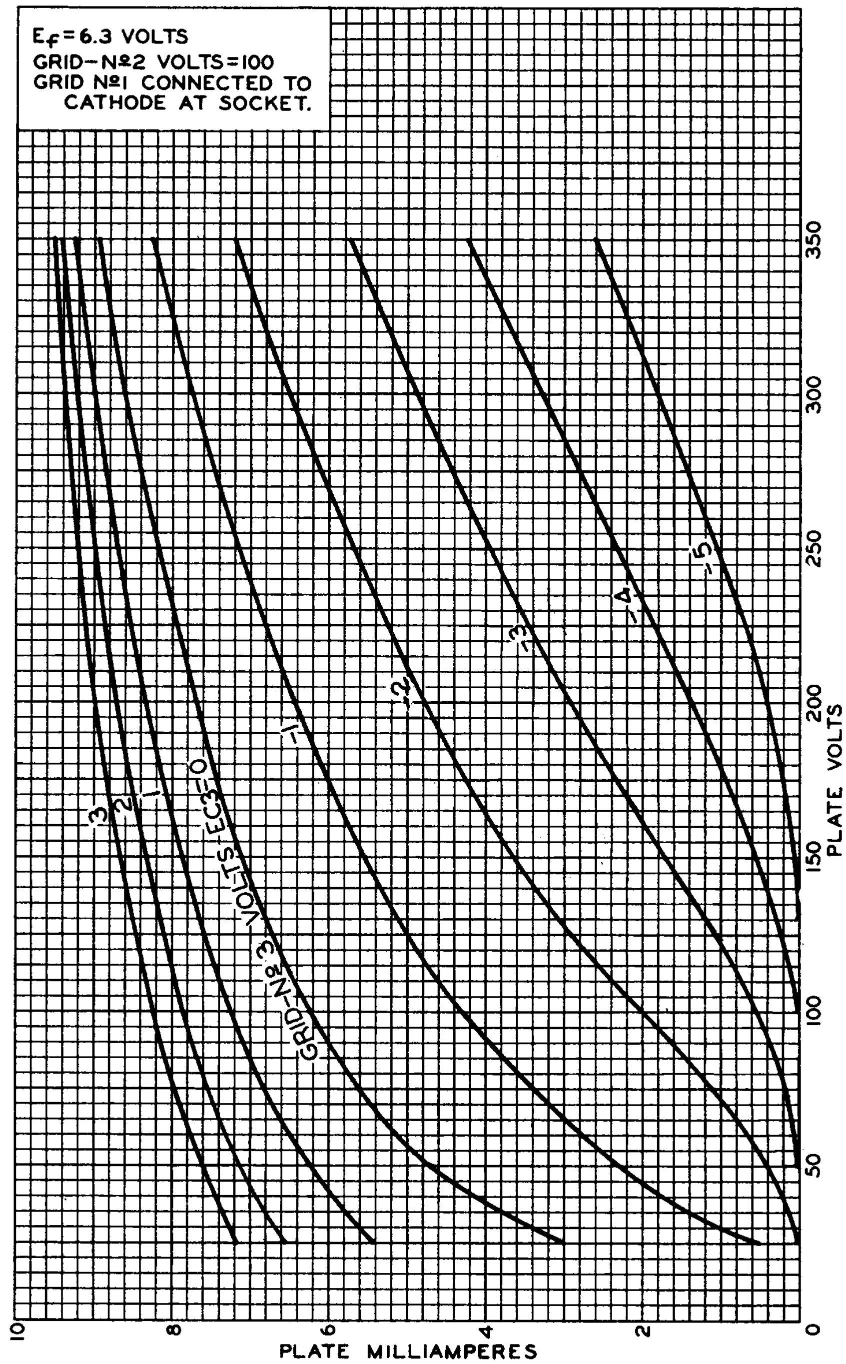
## AVERAGE PLATE CHARACTERISTICS




92CM-8827R2

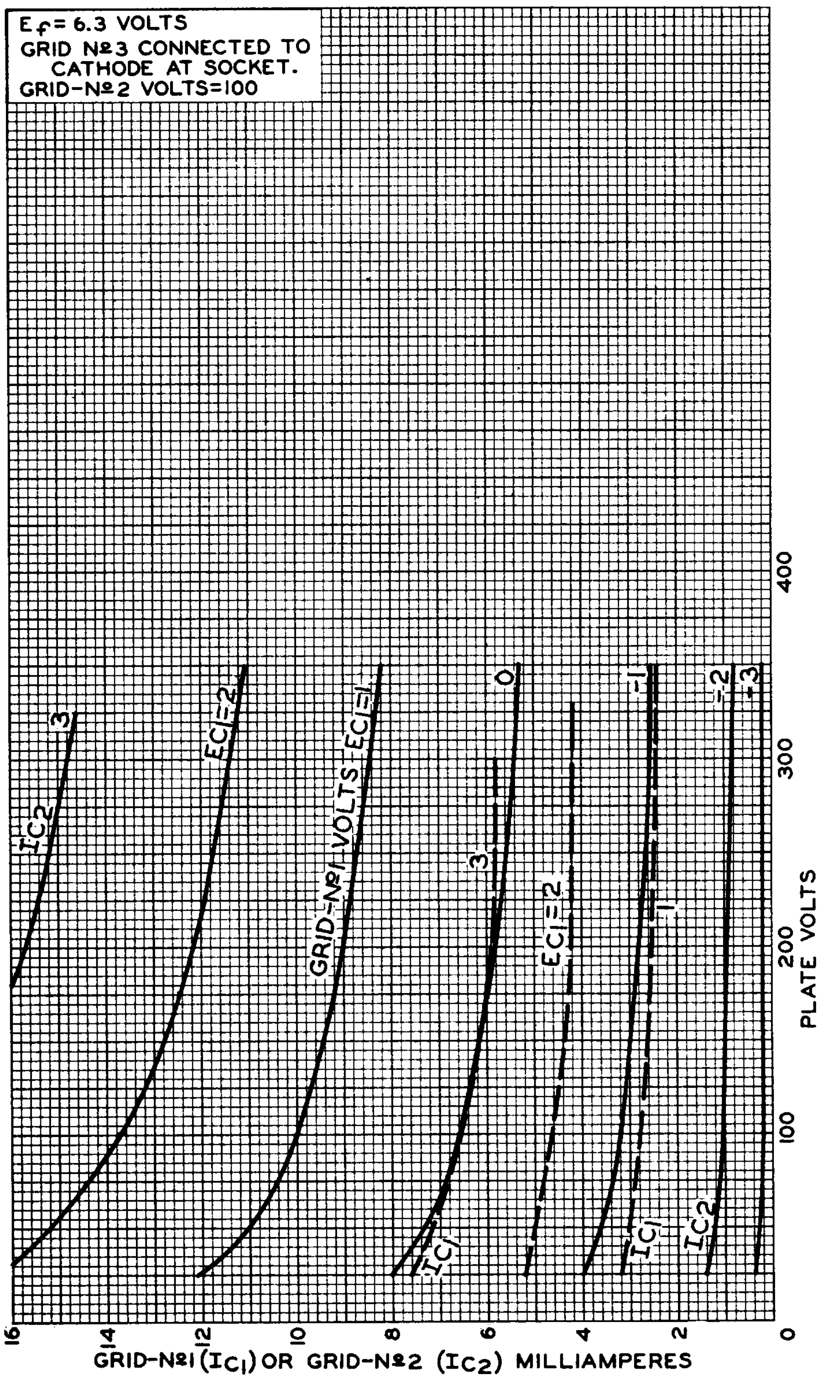
# 6DT6-A

## AVERAGE PLATE CHARACTERISTICS



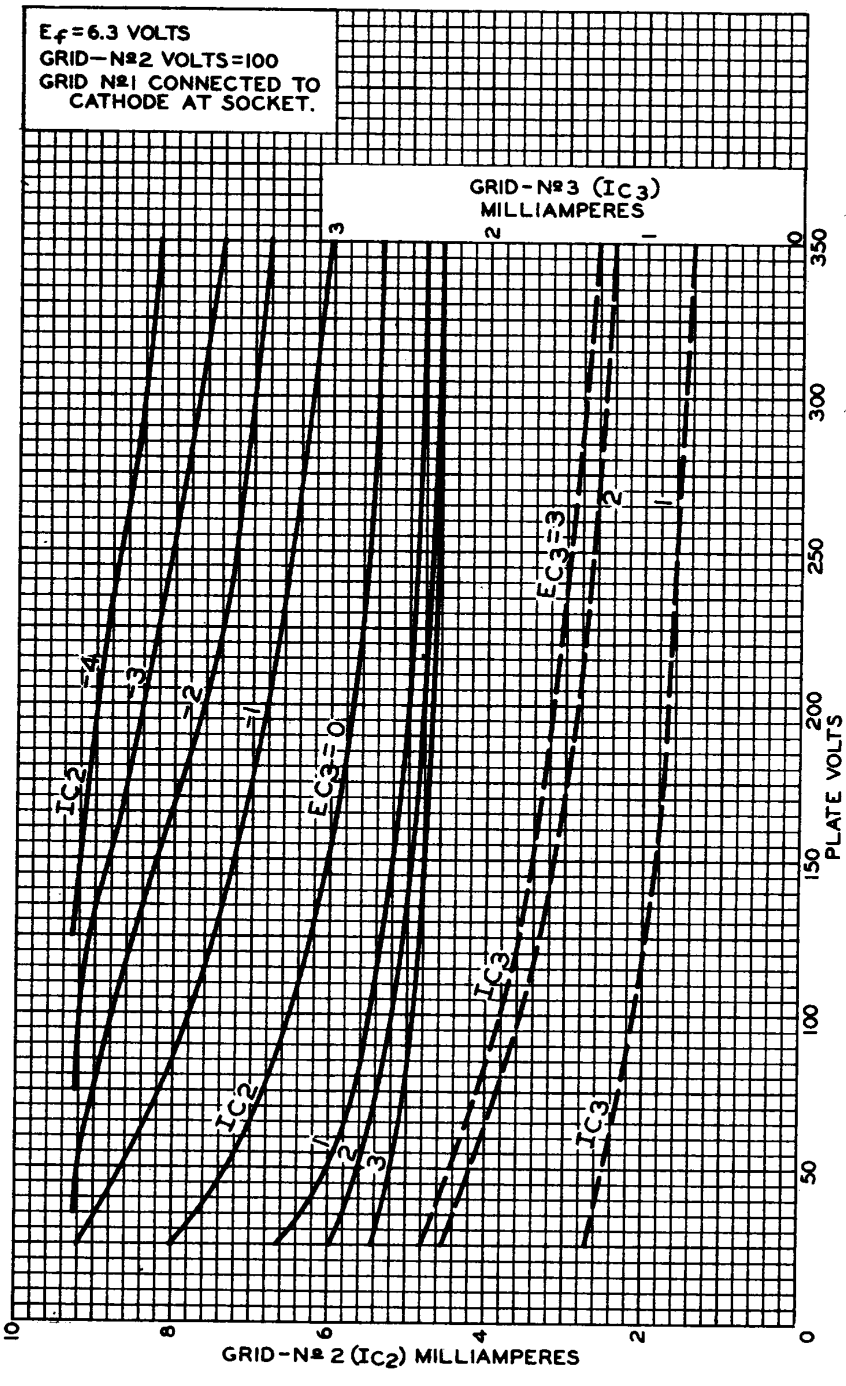

92CM-8830R2

## AVERAGE CHARACTERISTICS



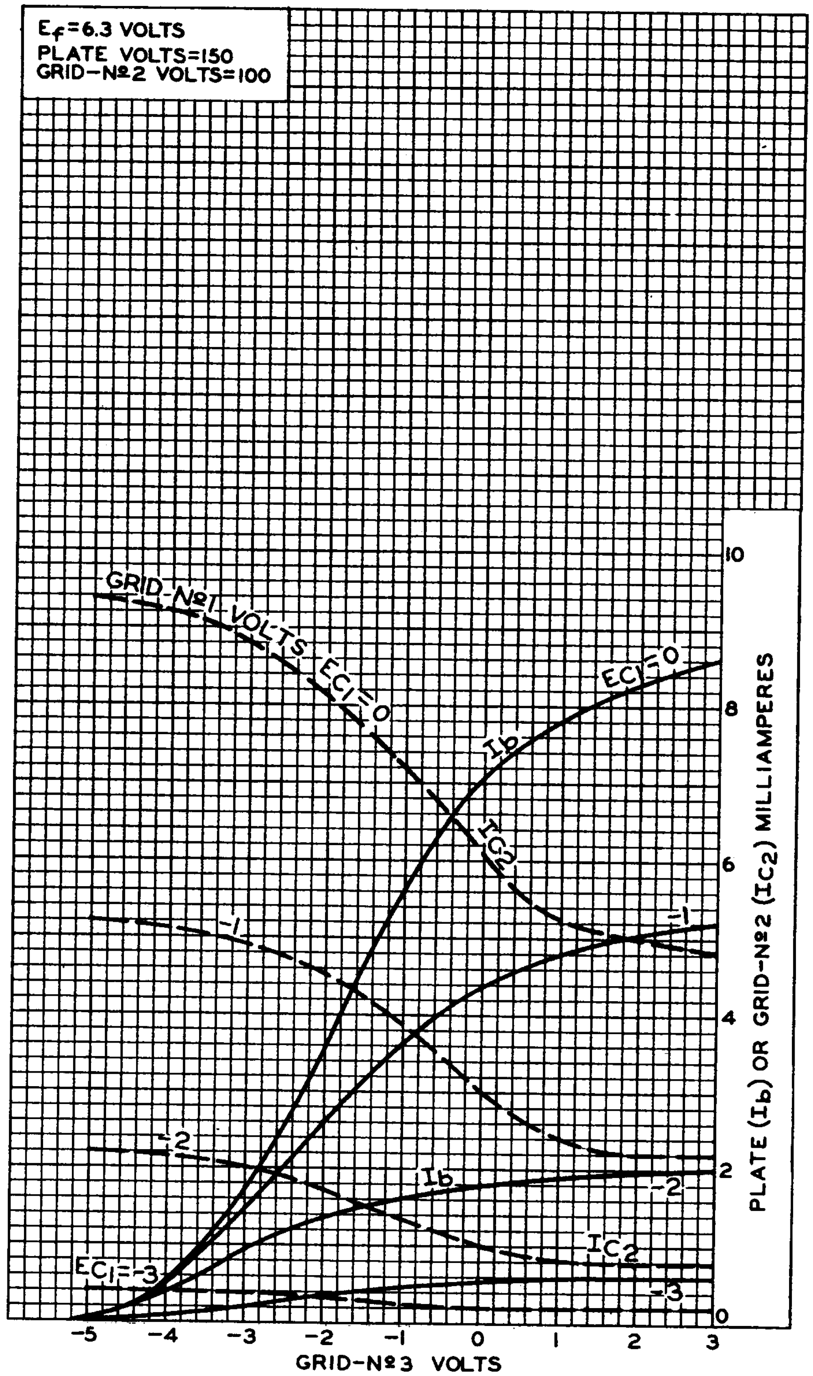

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## AVERAGE CHARACTERISTICS



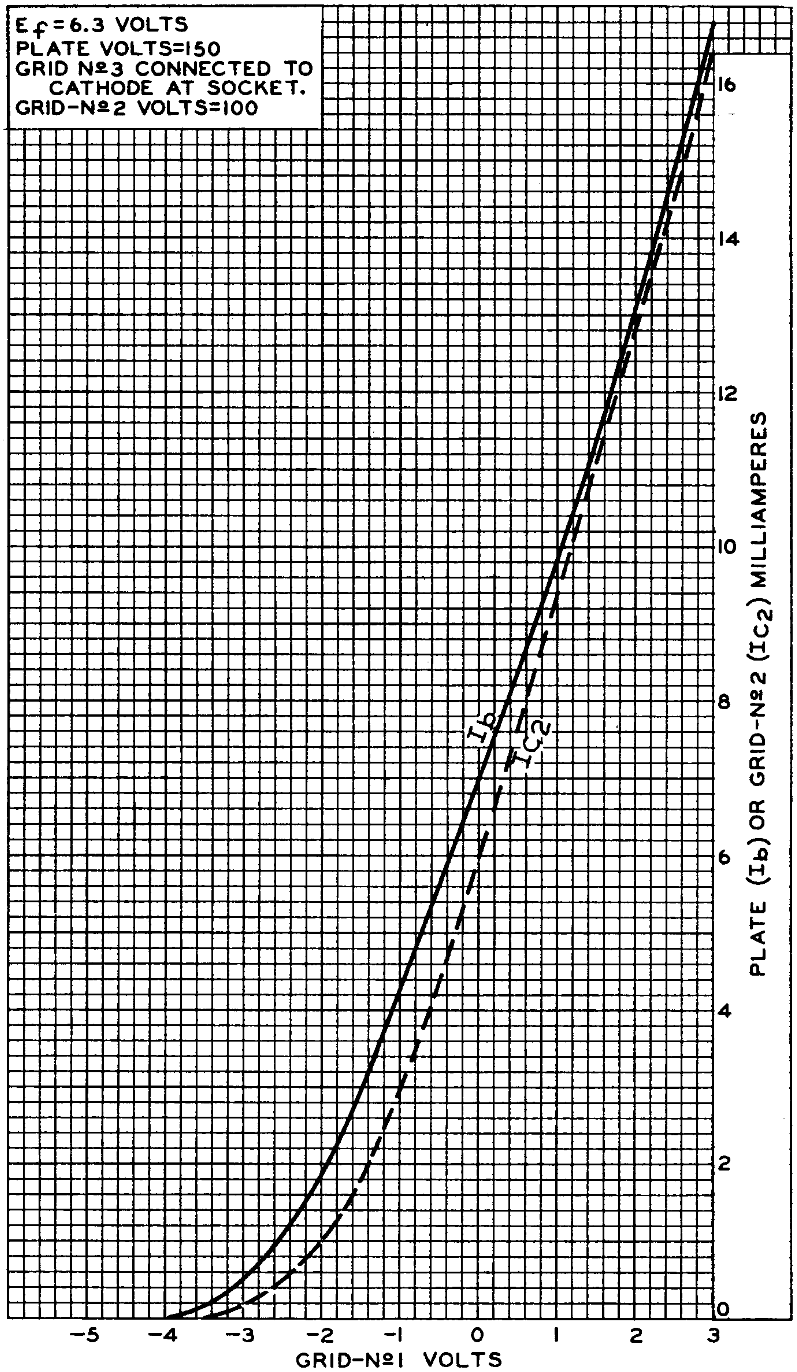

92CM-8829R2

## AVERAGE CHARACTERISTICS




92CM-8826R1

## AVERAGE CHARACTERISTICS




92CM-8825R1